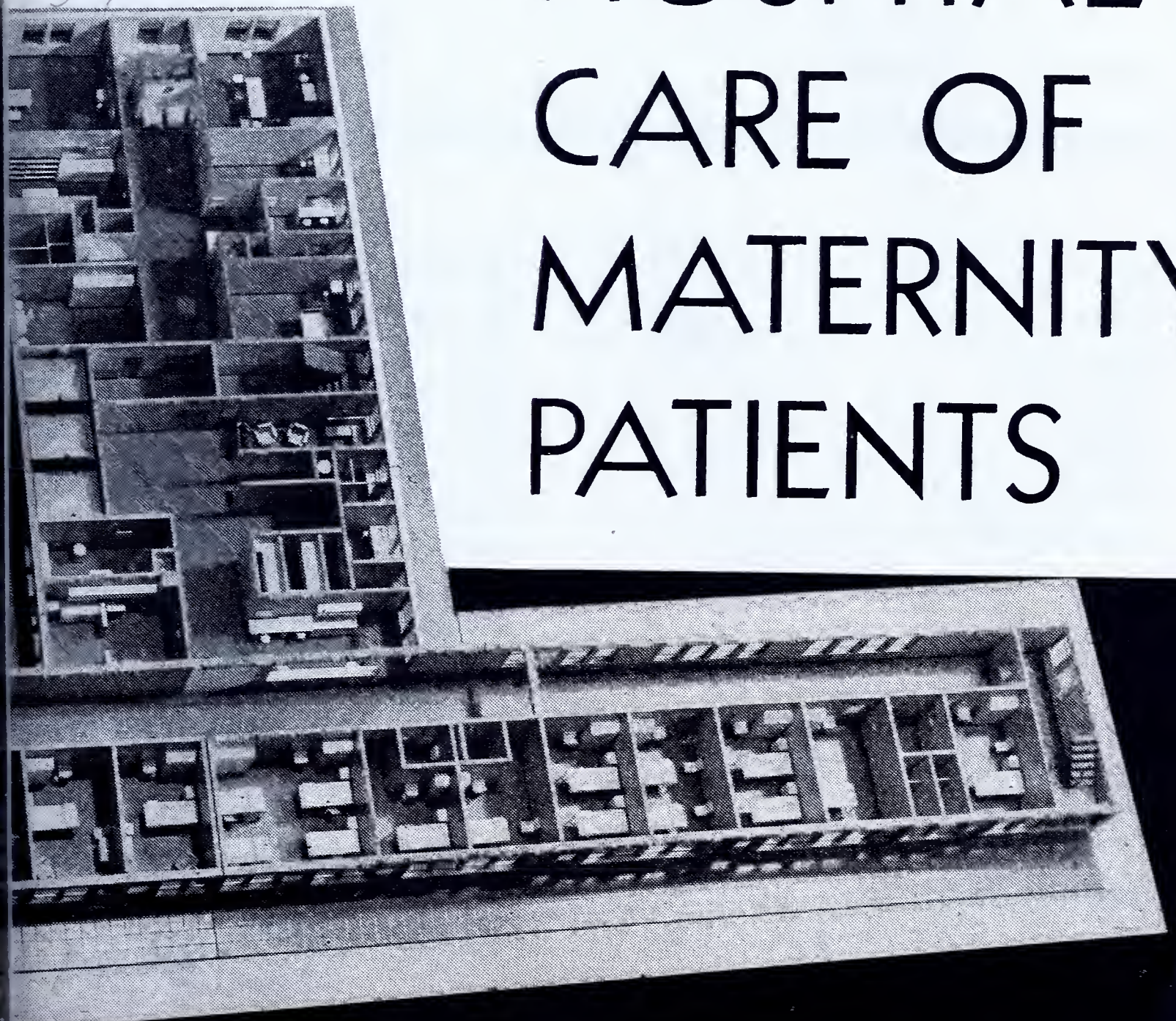


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standards and recommendations for

HOSPITAL CARE OF MATERNITY PATIENTS



publication number 314

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standards and recommendations for hosp

The original manuscript of this pamphlet was prepared by Dr. Eleanor Delfs. It was reviewed by members of the staff of the Children's Bureau; the Bureau's advisory committee of obstetricians, consisting of Dr. Robert L. DeNormandie and Dr. Fred L. Adair; and by Dr. Nicholson J. Eastman, professor of obstetrics, Johns Hopkins University School of Medicine. After receiving suggestions from the reviewers, Dr. John Parks, consultant in obstetrics for the Bureau and professor of obstetrics and gynecology of the George Washington University School of Medicine, revised the manuscript.



re of maternity patients

THE RECENT RISE in birth rate, the increasing demand for hospital delivery, and shortages of personnel, professional and non-professional, have made it increasingly difficult for many hospitals to maintain their previous high standards of care for maternity patients and newborn infants.

This pamphlet presents hospital standards for maternity care, representing in general the consensus of present obstetric practice, along with certain recommendations which may be helpful for those responsible for the maintenance of obstetric standards under difficult conditions.¹

Many hospitals may not be able to fulfill all of these standards. However, such hospitals may find these recommendations to be useful in evaluating their present methods of care, in determining the adequacy of their equipment, and in setting a goal for future attainment.

Irrespective of the size of the maternity service, the basic standards for obstetric care remain the same. While the following standards apply to hospitals with large maternity services, modifications necessary for smaller hospital departments should be in quantity rather than in quality of obstetric care.

THE MEDICAL STAFF

An authorized medical staff organization with responsible control is essential to the maintenance of good obstetric standards. The professional work of the department should be directed by the chief of the

¹ Hospital care for newborn infants has been presented in Children's Bureau Publication No. 292, Standards and Recommendations for Hospital Care of Newborn Infants: Full-Term and Premature. Washington, D. C. 1943. 14 pp.

service. The chief should be a qualified specialist in obstetrics and, if possible, one who meets the requirements outlined by the American Hospital Association: ²

- a** "A diplomate of the American Board of Obstetrics and Gynecology, or
- b** "Fellow of the American College of Surgeons coming under the classification of Obstetrics and Gynecology, or
- c** "Having had graduate training to conform to the principles or criteria set forth in the *Manual of Hospital Standardization* of the American College of Surgeons, July 1940, page 39, that is, a 1-year internship in an approved hospital, a 2-year residency in a hospital acceptable for graduate training in obstetrics and, in addition, 5 years' practice in the specialty, or
- d** "Equivalent training and experience."

The chief in cooperation with a committee of staff physicians should establish policies, maintain standards of technique, provide regulations for attending and house staffs, and conduct departmental meetings for analysis of work.

Attending Staff

The attending staff will vary with the organization of the hospital. Where the staff is limited to specialists, general policies may be adopted which include consultation for major obstetric complications. Many hospitals will have, in addition, a courtesy staff of nonspecialists of diverse training and abilities. In these hospitals regulations regarding consultation and operative limitations for courtesy staff physicians must be established and enforced. (See p. 19.)

House Staff

If a house staff is maintained, the chief and attending staff should supervise a program of training for residents and interns. Staff meetings should be held at regular intervals. All maternal and infant deaths should be reviewed. A résumé of admissions, deliveries, operations, and complications should be presented each month. While assigned to the maternity division, residents and interns should not be given duties in other sections of the hospital. In small hospitals where this is not

² MacEachern, Malcolm T., M. D., *Manual on Obstetric Practice in Hospitals*, Official Bulletin 209, American Hospital Association. Chicago 1940. 96 pp., p. 28.

practical, the resident or intern assigned to obstetrics must have no contact with infected or contagious patients. Where internships are rotating, the period spent in obstetrics should be at least 2 months.

THE NURSING STAFF

The department should be under the supervision of a graduate registered nurse who has had advanced clinical preparation and experience in obstetric nursing. A maternity service should have supervising graduate registered nurses with special preparation in obstetrics for each division of the obstetric department: The delivery suite, the patient rooms, and the nurseries.

All nursing personnel and auxiliary workers should be under the direction of the supervisor of the nursing service. While assigned to the maternity division, they should have no duties in any other section of the hospital.

Graduate Nurses

The actual number of graduate nurses needed will vary with the work load and organization of the hospital. The ratio of 1 graduate nurse to 5 patients by day and to 10 patients by night is desirable for good postpartum care.³ At least 2 nurses, 1 of whom is a supervising graduate nurse, should be available at all times for each delivery.

Student Nurses

The ratio of graduate nurses should be 1 graduate to 2 or 3 student nurses.⁴ The ratio of 1 graduate to 2 student nurses should always be maintained in the delivery suite and nurseries where close supervision is essential. Before being assigned to obstetrics, it is preferable for student nurses to have completed their operating-room experience. They should spend at least 3 months in the obstetric department, this time being divided equally in the prenatal clinic, in the delivery suite, in the wards, and in the nurseries.

³ Estimated from *Distribution of Nursing Service During War*, National Nursing Council for War Services, New York, May 1942, 23 pp., for ratio of personnel to patients per 24-hour period and hours of nursing service per patient, p. 13.

⁴ Pfefferkorn, Blanche, A. M., R. N., and Rovella, Charles A., M. B. A., *Administrative Cost Analysis for Nursing Service and Nursing Education*. American Hospital Association and National League of Nursing Education, Kingsport, Tenn., 1940. 202 pp., p. 162.

Auxiliary Workers

The current shortage of graduate and student nurses has resulted in the use of nurses' aides. Nurses' aides should not administer medicines or give treatments. Any substitution for graduate or student nursing care of maternity patients should be temporary. As soon as nursing personnel becomes available, nurses' aides should be replaced by graduate or student nurses.

Maids and attendants should be supplied in the ratio of 1 to 14 patients.⁵ They should perform housekeeping duties and assist with some of the simpler procedures concerned with the personal care of the patients.

HEALTH SUPERVISION OF PERSONNEL

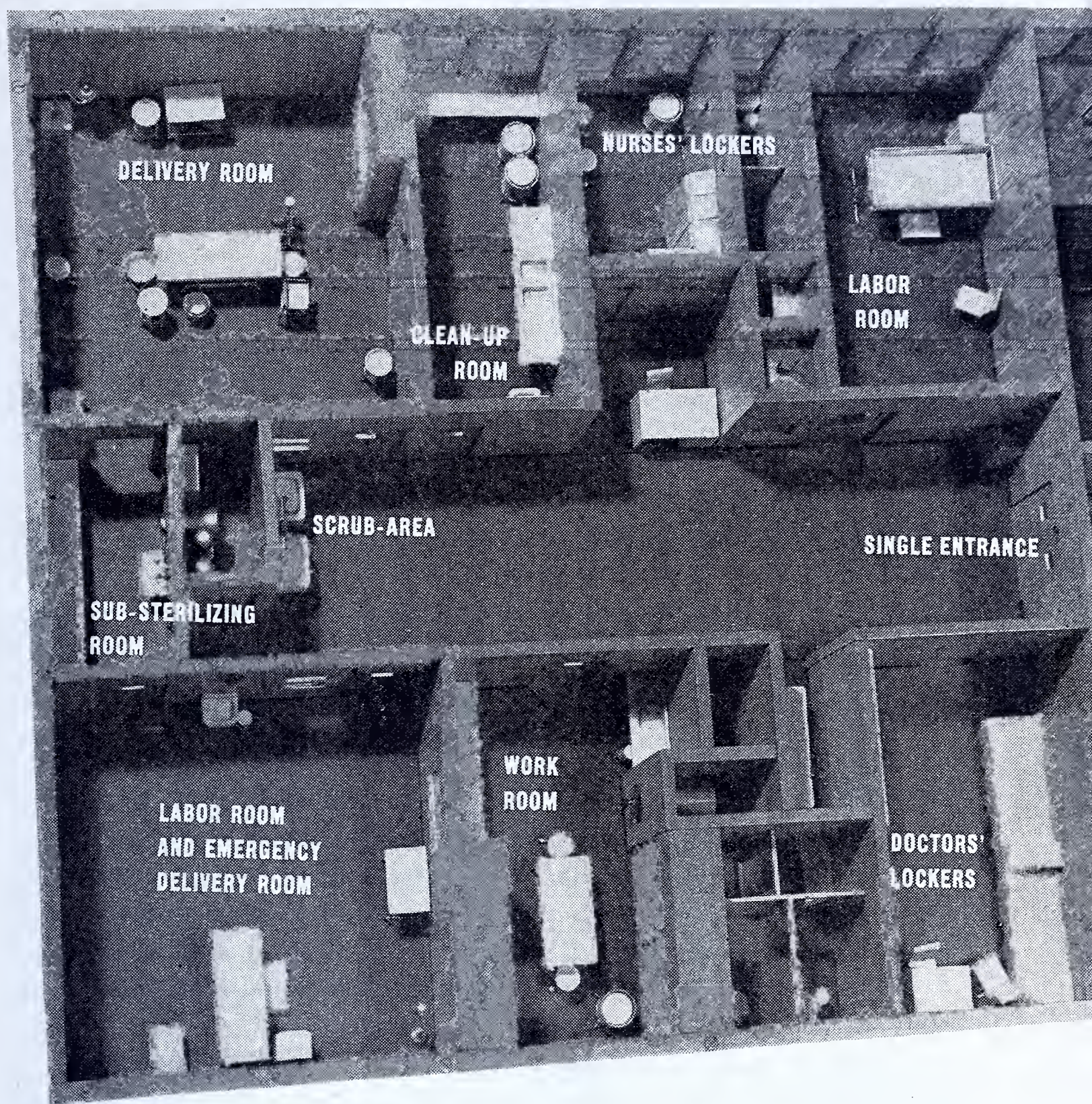
All physicians, nurses, and auxiliary personnel assigned to the maternity division must be free from communicable diseases. The physician in charge of the employee health service should examine and approve all personnel before they are assigned to the maternity division. The examination should include an X-ray of the chest. No nurse or worker should be transferred during a daily assignment from a ward with infectious patients to duties in the obstetric department. No one with an upper respiratory infection should be permitted to work in the maternity division.

THE MATERNITY UNIT

The maternity unit, consisting of a delivery suite, patient rooms, and nurseries, should be separated as completely as possible from the other hospital services. In larger hospitals, separate facilities, equipment, and supplies should be used exclusively for maternity patients. The maternity unit should be planned in a part of the hospital where future building expansion will not make it a traffic area. Provisions should be made for expansion of obstetric facilities without disrupting the unity of the service.⁶

⁵ From *Distribution of Nursing Service During War*, National Nursing Council for War Services, New York, May 1942, for ratio of personnel to patients per 24-hour period and hours of nursing service per patient, p. 14.

⁶ MacDonald, Neil F., and Shaffer, Marshall, Hospital Facilities Section, States Relations Division, U. S. Public Health Service, "Planning Suggestions and Demonstration Plans for Acute General Hospital." *Hospitals*, July 1943. 36 pp., p. 17.



An example of a compact and complete delivery unit for exclusive use of maternity patients is represented by this model. Set apart, traffic to and from the remainder of the building is by a single opening onto the main corridor.

The maternity unit should be used exclusively for the care of maternity patients and their newborn infants.

Construction must conform with local building, heating, electric, and plumbing codes.

Walls, Ceilings, and Floors

In general, interior surfaces should be durable, nonabsorbent, and smooth of finish to permit washing. There should be no projecting

moldings. Corners should be rounded to avoid collection of dust and to facilitate cleaning. The entire hospital should be satisfactorily screened.

It is desirable that walls and ceilings be a restful color. This is particularly advisable in labor and delivery rooms. Green or blue gray have been found to be good colors.

Lighting

Windows in patient rooms should be well screened and ample for light and ventilation. To eliminate glare, the delivery-room windows should have translucent or frosted glass. Each delivery room should have diffuse, preferably indirect, electric lighting adequate for the illumination of all parts of the room. In addition, there should be an extension or portable spotlight for proper illumination of the delivery field.

No flame, open filament, or other hazardous heating or lighting equipment should ever be permitted in the delivery rooms. All electrical equipment should have spark-proof switches.

Heating

Complete air conditioning (automatic regulation of temperature, humidity, and forced ventilation) of the maternity unit is desirable. When planning new construction, if conditions make such installation impossible, provision should be made in the wall for placing ducts for future air conditioning. At least the delivery suite should be air conditioned. (See p. 7).

Patient rooms should be provided with a minimum temperature of 68° F., day and night. Delivery and labor rooms should be maintained at a minimum temperature of 72° F. In instances of premature delivery, it should be possible to increase the delivery-room temperature quickly.

If forced ventilation is not available, draft-proof window devices are a necessity.

Plumbing

Examining, labor, scrub, nursery, and isolation rooms should have hot and cold running water with arm, knee, or foot controls. Nurses' stations, toilet, utility, and service rooms should have hot and cold running water. Ideally, each patient room should have hot and cold running water. Where this is impractical, hand-washing facilities should be located as close as possible to patient rooms.

DELIVERY SUITE

Admitting Room

Since most patients will be admitted in labor, the admitting unit should be located conveniently near or within the delivery suite. The admitting unit should consist of one or more rooms, which may or may not be connected by a common corridor. Essential admitting-room equipment consists of: A desk, chairs, clothes hooks, examining table, sphygmomanometer, stethoscope, pelvimeters, linen, gloves, lubricant, washbasin with hot and cold running water with arm or foot control, specimen bottles, and hospital history sheets. Since the admitting room will frequently serve as a preparation room, facilities for shower bathing, shaving, and giving an enema must be available.

Labor Rooms

Labor rooms should be provided in the approximate ratio of 1 labor room for each 10 maternity beds. Since these rooms occasionally have to serve as emergency delivery rooms, they should have an area of not less than 180 square feet. They should be adjacent to the delivery rooms. They should be well ventilated, preferably air-conditioned, and soundproofed. Each room should contain a bed with waterproof mattress, a chair, bedside table, sphygmomanometer, stethoscope, portable lighting equipment, rectal gloves, lubricant, a receptacle for soiled gloves, individual thermometer, bedpan, and washbasin with hot and cold running water controlled by foot or arm levers. If analgesia is used, beds with crib or canvas sides must be provided.

Delivery Rooms

Every hospital receiving obstetric patients should have a room or rooms used solely for deliveries; a general operating room should not be used as a delivery room. No delivery room should be used for more than one patient at a time. Approximately 1 delivery room should be provided for every 15 to 20 maternity beds. For heating, lighting, and ventilating of labor and delivery rooms, see page 6.

Each delivery room should be maintained as a self-sufficient unit containing the following equipment and supplies:

Delivery table . . . The table should have sections and level adjustment which permits placement of the patient in shock position. Lithotomy position for operative delivery may be maintained by manual support or with stirrups.

Surgical or spot light.

Clock with a second timer.

Metal-topped instrument table on casters with instruments for normal delivery.

Sphygmomanometer and stethoscope.

Supply cabinet . . . There should be a cabinet or built-in shelf space for sterile packages, instruments, suture material, antiseptics, oxytocic drugs, and syringes.

Equipment for anesthesia . . . Separate and adequate equipment for anesthesia should be provided for the delivery rooms. Departmental policies and preferences will determine the type of equipment needed. (See Anesthesia, p. 19.) A conveniently placed small table should contain articles used by the anesthetist.

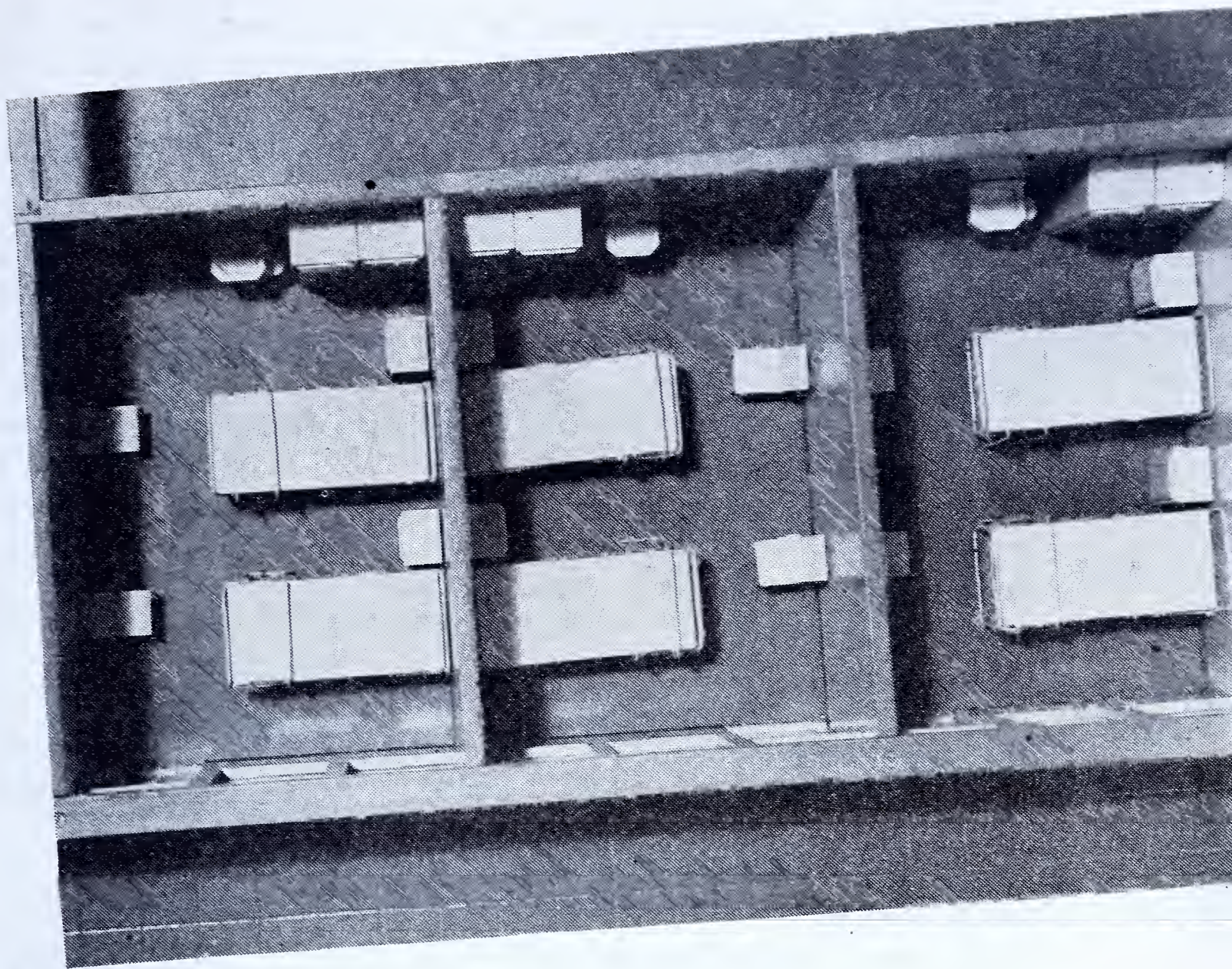
Apparatus for suction . . . Every delivery room must have suction apparatus available for immediate use.

Emergency instruments . . . The following equipment must be available at all times: Several sterile syringes with suitable needles; sterile instruments and gauze for packing the uterus; instruments for exposing the cervix and for repairing lacerations; solutions and equipment for the immediate administration of intravenous fluids; and a sterile package of instruments for cannulating a vein when vascular collapse makes venipuncture impractical.

Provisions for the care of the infant . . . There should be a heated bassinet in each delivery room. The bassinet should contain no hazardous electric equipment. A table or tray should contain articles needed for treating the cord and eyes. An acceptable method of identifying each infant must be available in every delivery room. Resuscitation equipment consisting of facilities for suction, a tracheal catheter, and a means of administering oxygen must be available for every newborn infant.

Scrub Room

There should be scrub facilities in or adjoining each delivery room; one scrub room between two delivery rooms is desirable. This room should be equipped with sink, hot and cold running water, with knee, elbow, or foot control, soap, sterile scrub brushes, and an antiseptic hand solution. View windows between scrub and delivery rooms are desirable.



Pleasant, spacious, individualized accommodations are provided in the two-bed rooms. Each room has a lavatory with hot and cold running water and separate lockers in place of a common dresser. Draw curtains permit additional privacy.

Operating Room

One delivery room should be a fully equipped operating room used for Caesarean sections. It must not be used for general surgical patients. The hospital having only an occasional Caesarean section may find it necessary to use the general operating room. In this event, Caesarean section should precede other operations and the most scrupulous technique should be enforced to prevent infection.

Isolation Delivery Room

A separate delivery room and equipment for the handling of infected patients should be located in the isolation unit. (See Isolation Unit, p. 13.)

Recovery Room

One or more recovery rooms may be provided near the delivery rooms. An alternate practice is to keep the patient in the delivery

room through the recovery period. If the delivery room is needed, the patient may be transferred back to her own labor bed until ready to be returned to her room.

Sterilizing Room

Since obstetrics demands a large supply of sterile articles, adequate provisions must be made for sterilization facilities. Arrangements for the sterilization of supplies will vary with the procedures of the hospital and the organization of the maternity division. In some institutions, all dry sterilized linen packages and even sterilized instruments will be supplied from a central sterilizing room. In other hospitals, a sterilizing room in or near the delivery suite is maintained for obstetric supplies alone. Utensil and instrument sterilizers are frequently provided adjacent to or between delivery rooms.

Supply Room

A room properly equipped with shelves and cabinets should furnish storage space for an ample quantity of linens, sterile packages, instruments, and medications used in the delivery suite.

Utility Room

The utility room should be close to the delivery and labor rooms. It should contain a sink with hot and cold running water, disposal hopper, covered metal waste can, hampers for soiled linens, and a sterilizer for utensils.

Nourishment Rooms

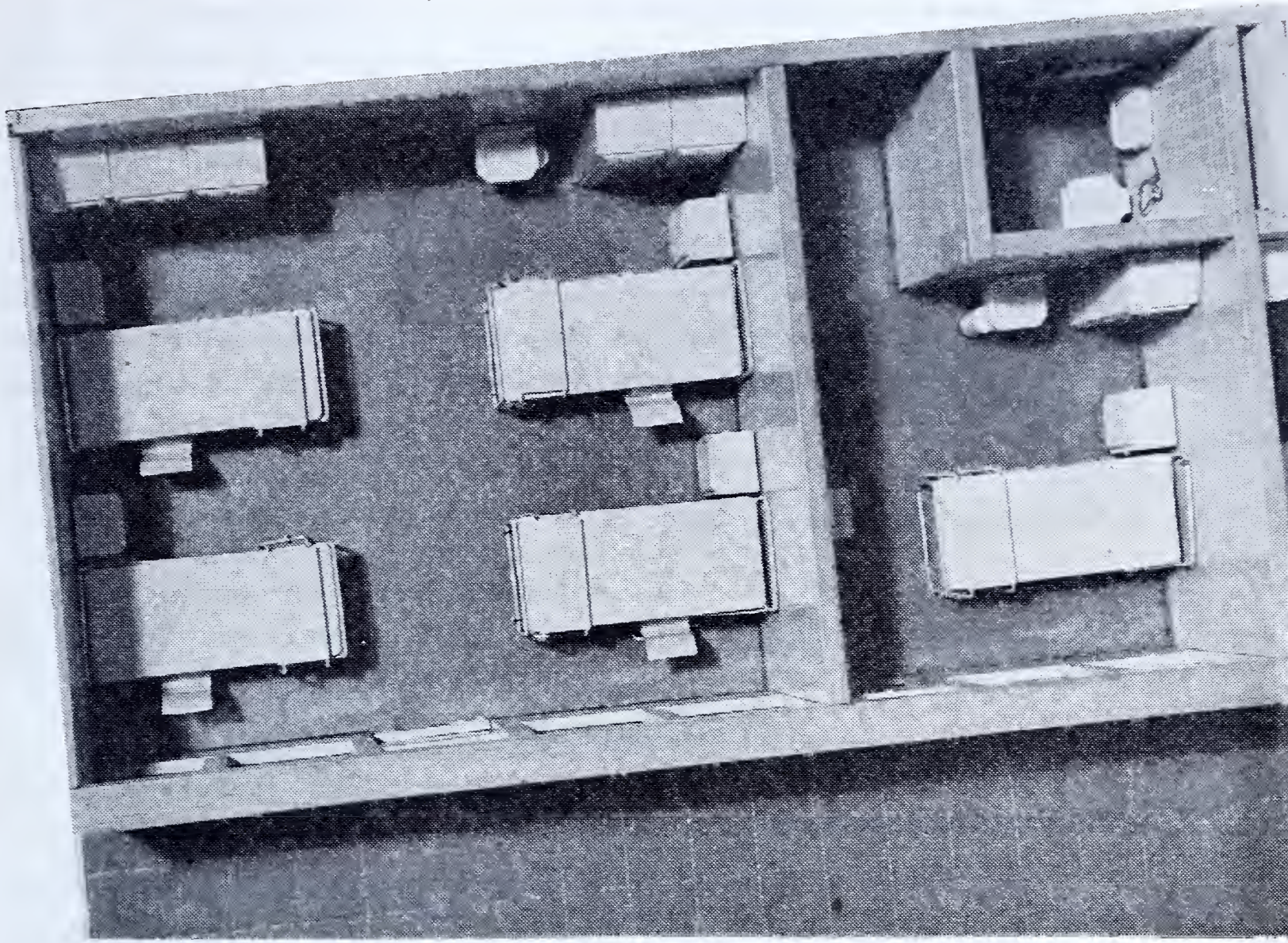
In general, regular meals will not be needed in the delivery unit, but facilities for serving hot and cold liquids will be found useful. A small room with refrigerator, hot plate, sink, and cupboard is adequate. In a small hospital nourishment may be supplied from the regular kitchen.

Nurses' Station and Dressing Room

A nurses' station with desk, chart rack, medicine cabinet, dressing room, toilet, and lavatory should be conveniently located in the delivery suite.

Doctors' Dressing Room

Near the entrance to the delivery suite, a dressing room should be provided for the doctors. It should contain lockers, lavatory, shower



Privacy in the four-bed rooms is accomplished with draw curtains. Each patient has a separate locker and the room is equipped with hot and cold running water. Next to the single room is a bedpan room which opens onto the corridor.

and toilet facilities. In addition, a lounge or sleeping room for doctors and anesthetists is essential.

PATIENT AREA

Patient Rooms

The number of beds and the type of rooms—private, semiprivate, and ward—will vary with the special needs of each hospital. In the average hospital approximately one-third of the rooms will be single, one-third double, and one-third four-bed rooms. No obstetric ward should contain more than six and preferably not more than four beds. Rooms should be arranged to permit segregation of antepartum and postpartum patients, nursing and nonnursing mothers, and all infected patients.

Size.—The floor area for any room should be 100 square feet per bed; the minimum area is 80 square feet per bed. The suggested minimal width for a one- or two-bed room is 10 feet 6 inches. There should

be at least 4 feet between beds in two- and four-bed rooms. For privacy, rooms containing more than one bed should be provided with curtains on rods. Adequate bedside lights must be provided.

Equipment.—Each patient unit should have a bed of the adjustable type, a chair, a bedside table, and individual utensils, including bedpan, bathing equipment, treatment tray, thermometer, and breast tray.

Hand-washing facilities for doctors and nurses should be conveniently located in all units. Ideally, there should be a washbasin in each room.

Patients' Bathrooms

For each unit of 25 beds, there should be a bathroom for ambulatory patients. The bathroom should contain a shower, washbasin, and toilet with a split seat. Tubs need not be provided for maternity patients.

Examining Room

Each unit of 25 beds should be equipped with an examining room containing: Desk, chairs, examining table, hot and cold running water, sphygmomanometer, stethoscope, gloves, specula, instrument sterilizer, instrument cabinet, and waste receptacle. This room would serve as a consultation room for patients admitted for reasons other than labor and for the examination of patients prior to their discharge from the hospital.

Nurses' Station

A nurses' station with desk, chart rack, medicine cabinet, and lavatory should be centrally located in each unit.

Utility Room

One utility room, conveniently located, should serve a maximum of 25 beds. It should be supplied with sink, instrument and utensil sterilizers, work space, and shelves for utensils, catheterization trays, and equipment for enemata.

There should be a separate room for flowers.

Supply Rooms

The following closet or room space should be provided: A linen

storage closet; a general supply space for special equipment and sterile supplies; and a janitor's mop and supply room.

Kitchen

Kitchen requirements will depend on the organization of the hospital, but in most hospitals food will be received from a central kitchen. However, there should be some provision in the unit kitchen for heating and refrigeration of food. There should be a sink, storage space for trays, dishes and utensils, and closed garbage cans. Adequate facilities for washing dishes should be supplied in the unit kitchen unless this is handled in a central dishwashing room. Dishes from isolated patients should be handled in the isolated unit kitchen.

Visitors' Room

There should be a waiting room for fathers and families of patients. It should be located near the entrance to the patients' unit and as remote as possible from the delivery unit. It should open off a main corridor. There should be a minimum of traffic of visitors near the patients' rooms and none in the delivery unit. Provision should be made for separate toilet facilities for visitors. Visitors should not use patients' toilets.

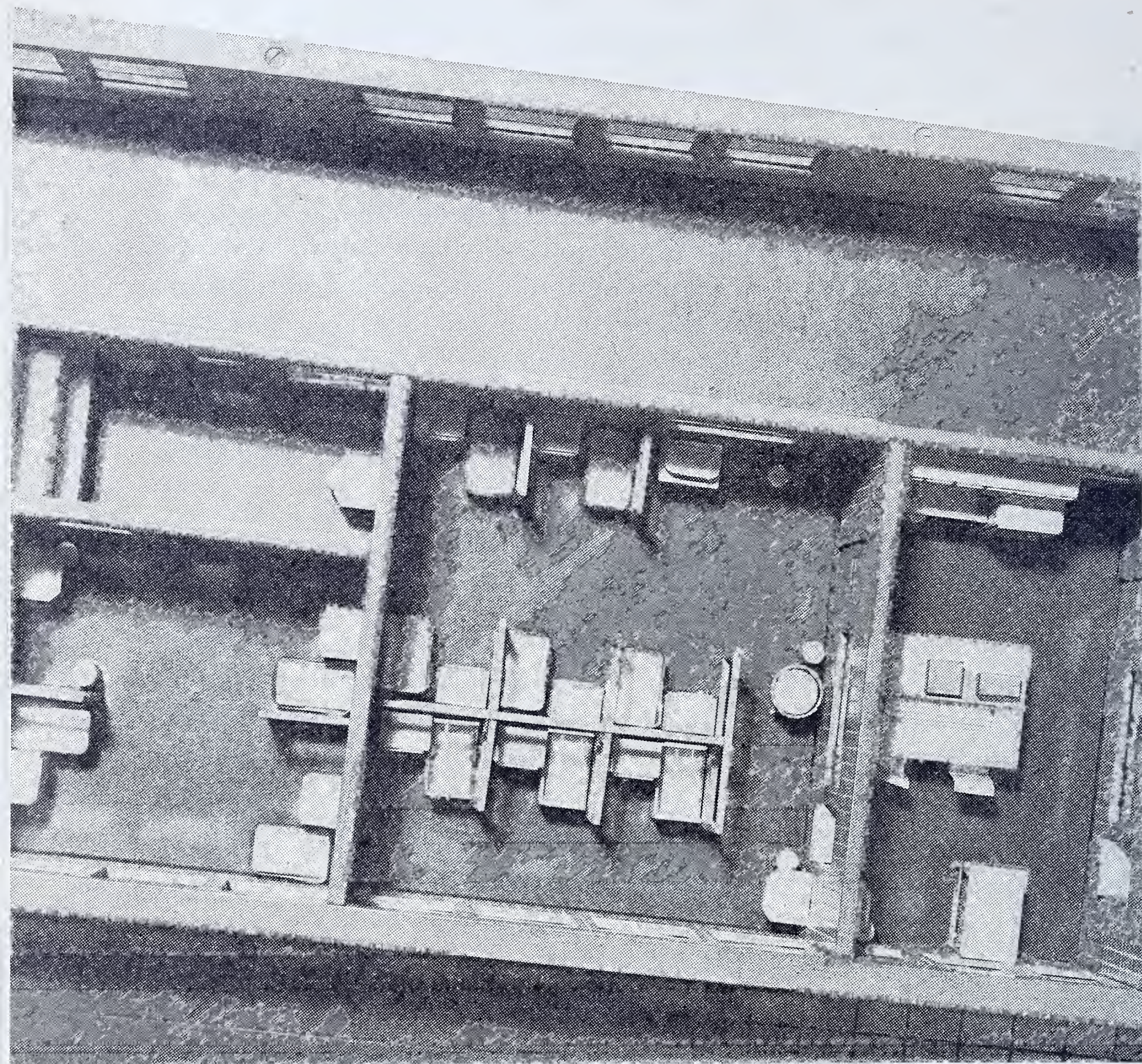
NURSERIES

(See Children's Bureau Publication No. 292, Standards and Recommendations for Hospital Care of Newborn Infants: Full-term and Premature.)

ISOLATION UNIT

It is imperative that every hospital caring for maternity patients make proper provision for isolating infected cases.

"Adequate accommodation for isolation of the mother who develops fever or other signs of infection is of paramount importance. In the absence of a properly arranged isolation unit, infected patients should be taken outside the obstetrical ward to a room where there are no surgical or gynecological cases with open wounds that might cause cross infection. The best method is to remove infected obstetrical patients to a completely segregated section which has at least 1 bed for



Nursery units are entered only through nurses' station. Each of the eight cubicles is equipped for individualized, bedside treatment. Three cribs in a room completely apart are for infants suspected of having infection.

every unit of 25 obstetrical beds. A self-contained delivery room unit in the isolated or segregated area is most desirable.”⁷

The size of the isolation unit will depend on the number and types of maternity patients handled. One isolated bed for each unit of 20 to 25 beds is sufficient for a predominantly private service. If the service is largely a municipal service or if many patients are referred after attempts at delivery, approximately one-tenth of the beds might be needed for isolated patients.

⁷ Manual of Hospital Standardization. History, development, and progress of hospital standardization. Detailed explanation of the minimum requirements. Chicago, 1940. American College of Surgeons, 112 pp., p. 46.

Isolated patients should have a separate nursing staff and should be cared for in single rooms, or in a cubicled room. Each patient must have individual equipment. There must be a lavatory with running water in or adjacent to each isolation room.

The isolation unit should have its own delivery room, preferably equipped for operating, with adjoining sterilizing and scrub rooms, utility room, and kitchen. Equipment should be so complete that none is borrowed from clean units.

The small hospital may use a single private room in a region remote from the obstetrical division for an isolation room. The room chosen for this purpose should have running water and individual toilet facilities. Equipment for delivery may be provided on a rolling table or, preferably, may be kept in the room. If a patient in such an isolated room requires surgery, this should be performed in the general operating room rather than in the clean delivery unit.

AUXILIARY FACILITIES

Roentgenographic Examination

In the majority of hospitals the equipment of the X-ray department should be supplemented with special devices for obstetric roentgenographic examinations.

Blood Transfusion

If the hospital maintains a blood bank, provisions for handling donors will usually be made there. Since the maternity division depends upon the immediate availability of blood for transfusion in many obstetric emergencies, the obstetrician should take an active part in establishing and maintaining such a hospital service. Where a blood bank is not available, it may be desirable to have a small room adjacent to the laboratory for the handling of blood donors. It should contain chairs, couch, supply cabinet, work table, and equipment for receiving blood for transfusion. All maternity hospitals should have prepared blood plasma and, if possible, type O Rh negative blood available at all times.

Laboratory

Facilities should be available at all hours for the examination of urine, for blood counts, and for typing and cross matching. The Rh factor must be determined in all maternity patients prior to blood transfusion. Chemical, bacteriological, and pathological specimens sub-

mitted to the laboratory from the maternity division should receive prompt attention. A large service should have laboratory facilities near the admission unit and on each floor.

Dietary Department

Meals for maternity patients should be planned by the dietitian on the request of the physician. This service should be supplied by the general hospital dietary department.

Social Service Department

Social services should be available for maternity patients as for all other patients in the hospital and should be provided by the Social Service Department.

MATERNITY UNIT PROCEDURES

While it is necessary for each obstetric service to establish its own set of standards, certain general principles for medical and nursing care of maternity patients can be recommended. Details of care will depend upon the individual preferences of the staff members. General procedure policies should be formulated by the chief of staff or by a committee of staff obstetricians. Written departmental regulations should be available for all members of the staff. Attending obstetricians and house officers should be responsible to the chief of staff or to the committee on standards for the maintenance of all procedure regulations.

The medical and nursing staffs should establish written regulations regarding procedures for nursing care. It should be the responsibility of the supervisor of the obstetric nursing service to see that all nursing procedures are properly performed.

Delivery Unit Procedures

Admission.—The admission of maternity patients cannot be delayed by a prolonged registration of business details.

In instances of emergency admissions where problems are created in the home regarding the care of other children, the situation should be referred promptly to the Social Service Department.

If an admitting room is used, all patients should report there for a recording of temperature, pulse, respiration, height, weight, and blood pressure. Many patients would receive preparation in the admitting room followed by transfer to the labor rooms; for other patients, preparation and early labor would take place in their rooms.

As a general rule, all noninfectious patients who are past the twentieth week of pregnancy, should be admitted to clean maternity facilities where mother and infant will have the maximum opportunity for survival.

Because a high percentage of pregnancies terminating before the twentieth week are accompanied by infection, it is usually advisable to place these patients in facilities apart from the clean labor, delivery, and postpartum rooms.

Immediately upon admission each patient's prenatal record should be available. The physician's admission history should include: Time of onset of labor; frequency and intensity of contractions; condition of the membranes; amount and character of any bleeding; activity of the fetus; any symptoms of toxemia; recent exposure to contagious disease; and a record of the last food ingested.

If a prenatal record is not available, the admission history should include the following additional information: Type of previous deliveries; weight of infants; complications of all previous pregnancies; complications of present pregnancy; significant past medical and family history.

Each patient's admission examination should include: A record of temperature, pulse, respiration, blood pressure, and weight; skin lesions; condition of the throat, lungs, heart; degree of edema; estimation of size, presentation, and position of the fetus; rate and character of fetal heart sounds; degree of engagement of the presenting part; and the amount of cervical effacement and dilatation. An admission urine analysis should be recorded.

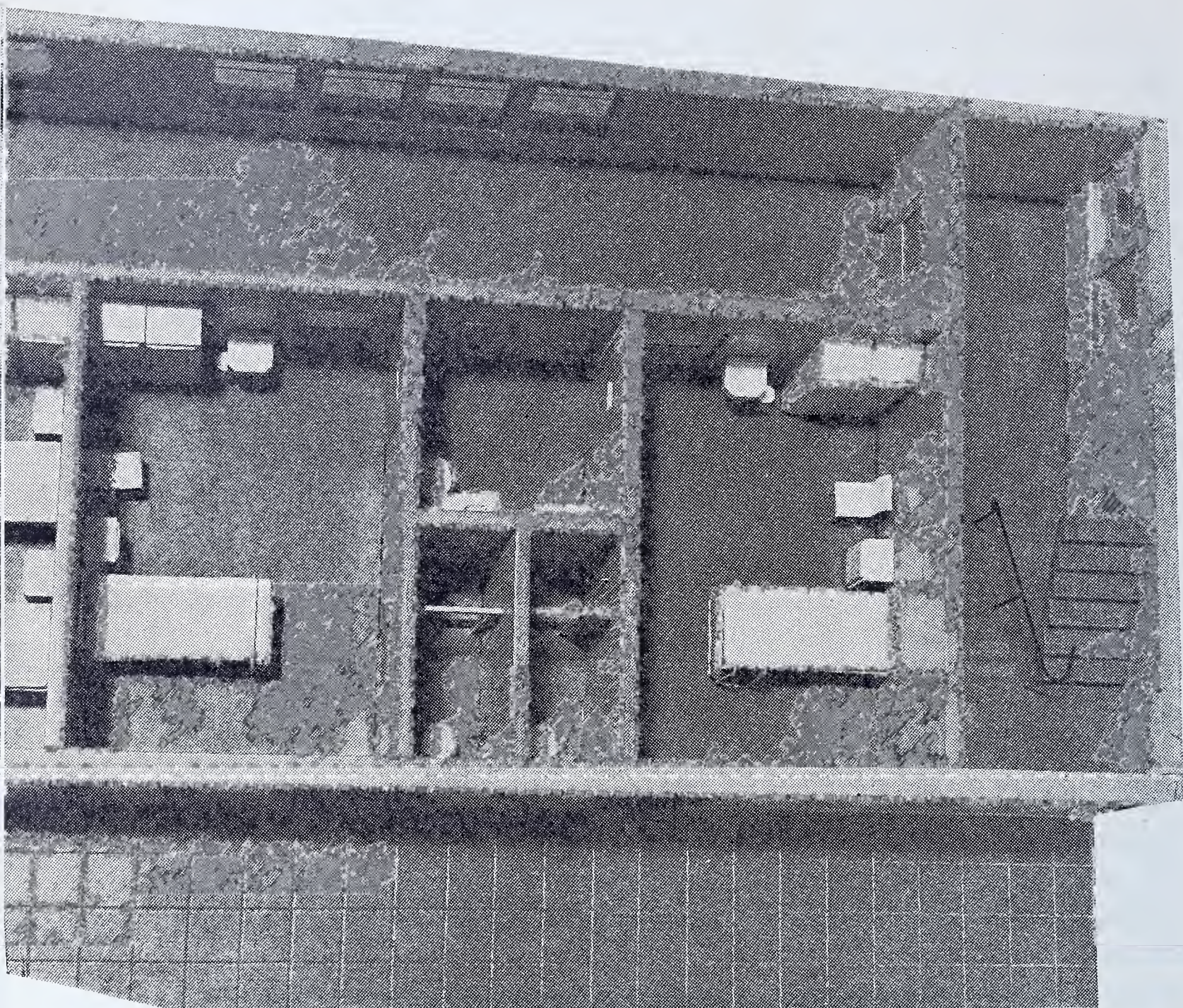
In addition to a complete admission history and physical examination, patients who have had no prenatal care should have pelvic measurements (including the diagonal conjugate unless the head is deeply engaged); serological test for syphilis, and any other indicated laboratory determinations, including X-ray pelvimetry and X-ray examination of the chest.

Conduct of labor.—Except in the unusual patient, the progress of labor can be determined by abdominal and rectal examination. When clearly indicated, vaginal examination should be performed after the patient has been prepared with an antiseptic and after the physician has scrubbed his hands and applied sterile rubber gloves.

All technique in the labor rooms should be individualized.

All nurses and doctors should wash their hands thoroughly with soap and running water before and after every treatment or examination.

Drugs should be given only on the order of a physician. All patients under the influence of analgesics *must* have a nurse in *constant* attendance.



Connected by a utility room, two single rooms, set apart, with individual toilet, shower facilities, and bedpan flushers, serve as rooms for isolation. Each room is equipped with hot and cold running water and a minimum of furnishings.

A policy regarding the use of oxytocic drugs in the first stage of labor should be established. If permitted at all, the indication should be recorded for the use of such drugs.

Patients who show signs of dehydration should receive supportive treatment with intravenous saline or glucose as indicated.

Any patient suspected of having malpresentation, fetal abnormality, obstructed labor, or a contracted pelvis should receive a roentgenographic examination of the pelvis and abdomen. If possible, this should be done before onset of labor.

Conduct of delivery.—Everyone in the delivery room should wear a gown, cap, and mask. The obstetrician should change to a scrub suit, sterile gown, sterile gloves, cap, and mask.

Antisepsis.—A method of antiseptic perineal preparation and draping should be established by the staff. All the details of antisepsis should be carried out as carefully as for surgical procedures.

Anesthesia.—A general policy regarding anesthesia should be determined by the head of the service. The types of anesthesia permitted, the personnel for administration, and necessary safeguards should be known to all members of the staff. An auxiliary supply of oxygen should be available in every delivery room. In every delivery room, where general anesthesia is used, a suction apparatus for aspiration must be readily available. Patients who have eaten solid foods shortly before delivery should not be given a general anesthesia until the stomach contents have been expelled by vomiting or lavage. Unprepared obstetric patients are more subject to anesthetic accidents, such as vomiting, aspiration, and massive pulmonary collapse, than are prepared surgical patients. In the absence of trained anesthetists, the wider use of local anesthetic agents by the obstetrician is to be encouraged. Inhalation, intravenous, spinal, or caudal anesthesia should not be given by anyone except an experienced anesthetist.

Consultations.—For all major obstetric complications it is advisable for qualified obstetricians and imperative for nonspecialists to seek consultation. Procedures requiring consultation should include: Caesarean section; craniotomy or embryotomy; version and extraction; any forceps delivery, except outlet forceps; cervical incisions or manual dilatation of the cervix; induction of labor or the interruption of pregnancy for any reason; severe toxemia or pernicious vomiting; labor lasting 24 or more hours; patients with hemorrhage of any type; and patients with serious medical complications, such as heart disease, pneumonia, diabetes, or pyelonephritis.

Shock therapy.—Measures for the immediate treatment of shock should be available at all times in all hospitals treating maternity patients.

The delivery table should be adjustable to Trendelenburg position.

Intravenous glucose or saline solution may be used as a temporary supportive measure. Most patients with severe shock require plasma or whole-blood transfusion. Plasma should be available. A small hospital may stock dried plasma which keeps for a long period of time.

Patients with severe anemia, with evidence of abnormal bleeding, with a history of previous postpartum hemorrhage, with a prolonged labor or an anticipated difficult delivery, and patients for Caesarean section should be typed, cross matched, and the Rh factor determined. This plan is easily carried out in the hospital with a blood bank, but it

is even more important where a donor must be obtained for the individual patient. In obstetric hemorrhage, time and type of hemorrhage are important factors. Many maternity deaths occur each year because of delay in giving blood transfusions. Even the small hospital should have typing sera and a donor list available for emergencies. The donor list may be built up independently, or arrangements may be made for access to the lists of a larger hospital, or a local Red Cross unit.

Recovery period following delivery.—Every patient who has had a general anesthetic should have constant, experienced nursing care until fully conscious. When possible, it is advisable to keep each patient in the delivery room under the constant observation of an experienced nurse or physician during the first hour postpartum. Blood pressure, pulse, condition of the uterus, and degree of bleeding should be recorded three or four times during the first hour postpartum. Patients who have had uterine atony, hemorrhage, shock, anesthetic difficulties, or any other complications must receive special attention from the medical and nursing staffs until fully recovered. All postpartum patients should be watched by the nurse or doctor, at least during the first 6 hours after delivery for evidence of delayed hemorrhage.

Recommended Procedures for the Postpartum Patient

Puerperium.—All possible sources of infection should be eliminated. Physicians, nurses, and attendants should maintain meticulous technique in the care of puerperal patients. Each patient must be provided with individual equipment for the care of the breasts and perineum, as well as a thermometer, bedpan, and bath basin. The nurse should wash her hands with soap and running water before and after administering bedpan or perineal care. During respiratory epidemics everyone who comes in contact with the patient should wear a mask, and no one with an acute infection should be permitted to attend or visit the patient.

Patients should have a daily bed bath. They should wash their hands with soap and water before each nursing period. After the first day or two following delivery, except for the care of the perineum and breasts, most patients can take their own bed bath.

Perineal care should be given by the nurse according to the technique agreed upon by the medical and nursing staffs.

Care of the breasts should be supervised by a nurse and abnormalities must be reported to the medical staff.

During the puerperium, each mother should not only receive instructions regarding her own care, but she should be taught the fundamental principles of infant care. Information on infant care may be

given through daily instruction, individual or group demonstrations, or by supervised bedside participation of mothers in the care of their own babies while in the hospital.

Temperatures should be taken at 4-hour intervals during the day and, if indicated, at night. It is recommended that the standard for the determination of morbidity of the American Committee on Maternal Welfare be adopted:

“Temperature of 100.4 F. (38° C.): This temperature to occur on any 2 of the first 10 days postpartum, exclusive of the first 24 hours, and to be taken by mouth by a standard technique at least four times a day.”

Recommended isolation measures.—Patients who are admitted with a fever or who show other evidence of infection should be placed in the isolation unit for antepartum treatment, delivery, and postpartum care. A separate nursing staff must be provided for infected patients.

Unless it has been definitely determined that the cause of the fever is not transmissible, patients who become febrile during the puerperal period should be transferred to an isolation room.

Visitors.—During the first 5 days after delivery, only immediate members of the patient's family should be permitted as visitors to the maternity division. Visiting periods should be designated which do not interfere with the care of the mother and the nursing of the baby. A maximum of two people should be permitted at the bedside of the mother. Especially during epidemics of respiratory infections, visiting should be limited to the immediate family and they should be required to wear masks.

DISCHARGE FROM THE HOSPITAL

The time of discharge will depend upon the condition of the patient, upon the home situation, and to some extent upon the availability of hospital beds.

A patient with fever, with excessive bleeding, with subinvolution of the uterus, or with other confining complications of pregnancy should remain in the hospital until free of symptoms.

Every effort should be made to keep patients in the hospital a minimum of 10 days after delivery. Patients who go home during the first week after delivery should be transferred by ambulance.

Where social problems are evident and where home conditions are unsatisfactory, these patients should be referred to the Social Service

Department as early as possible so plans can be worked out for their discharge without delay. Plans should be made with the local health department or visiting-nurse association to accept regular referral of mothers and infants for the public-health supervision available in the community.

Discharge examination should include a record of the condition of the breasts and nipples; of the abdomen for relaxation of muscular support and for involution of the uterus; of the perineum for the character of the lochia and the healing of any wounds. Each patient should return to her physician 4 to 6 weeks after delivery for follow-up examination of the breasts, perineum, cervix, size and position of the uterus, the ovaries, blood pressure, and weight determination.

HOSPITAL RECORD

An accurate and complete record should be kept on every patient. Record forms which itemize desired data will probably yield more information where time and personnel are limited. The record should include:

- 1** Identification and age.
- 2** Complete history of the present pregnancy and complete history of previous pregnancies, past medical and family history.
- 3** Physical examination should be completely recorded not only with regard to immediate obstetric findings, but to general physical condition as indicated on page 16.
- 4** The labor record should include a clear account of the first, second, and third stages of labor, type of delivery, indications for operative procedures, type of operation, complications, size, sex, and condition of the infant.
- 5** Progress in the puerperium should include a record of all complications and given therapy.
- 6** Condition of the patient on discharge should be recorded in detail.
- 7** The mother's record should include the weight, measurements, sex, condition of the infant at birth, its progress in the hospital, and condition on discharge.
- 8** Laboratory findings should include gross and microscopic examination of all tissues obtained.

Illustrations are photographs of model of maternity floor for a 100-bed hospital, designed by Hospital Facilities Section, U. S. Public Health Service, and Children's Bureau, U. S. Department of Labor. Model constructed by the Office of Visual Information, U. S. Department of Labor.

A reprint from the February issue of *Hospitals*, Journal of American Hospital Association, entitled "Modern Standards In Adequate Facilities for Obstetric Care," carries an explanation of a design of a maternity floor for a 100-bed hospital. Free copies of this reprint can be obtained from either the Hospital Facilities Section, U. S. Public Health Service, or the Children's Bureau.

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